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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/707,954	01/28/2004	Steven H. Voldman	BUR920030079US1	1953
23389	7590	10/05/2004	EXAMINER	
SCULLY SCOTT MURPHY & PRESSER, PC			QUINTO, KEVIN V	
400 GARDEN CITY PLAZA			ART UNIT	
GARDEN CITY, NY 11530			PAPER NUMBER	
			2826	

DATE MAILED: 10/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/707,954

Applicant(s)

VOLDMAN, STEVEN H.

Examiner

Kevin Quinto

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 25 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 25 March 2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 21 objected to because of the following informalities: there is no period at the end of claim. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 18 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
4. Claim 18 recites the limitation "the first device" in line 2. There is insufficient antecedent basis for this limitation in the claim.
5. The examiner believes that "the first device" is the trigger device described in claim 17 and has thus interpreted the claim in this manner.

### ***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-7 and 9-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Botula et al. (USPN 6,429,489 B1).
8. In reference to claims 1 and 11, Botula et al. (USPN 6,429,489 B1, hereinafter referred to as the "Botula" reference) discloses a similar device and its method of fabrication. Figures 3-6 of Botula each disclose an electrostatic discharge device with a forward biased npn bipolar transistor trigger device (202, for sake of clarity the labels of figure 3 are only used since the corresponding labels for the other figures are similar) fabricated in a given technology. There is a clamp transistor (206) that is coupled to the trigger device (202) so that activation of the trigger device (202) activates the clamp transistor (206). Botula makes it clear that the clamp transistor (206) has a cutoff frequency which determines its Johnson Limit breakdown voltage with its discussion of the Johnson Limit (column 2, lines 56-67 and column 3, lines 12-36). The trigger device (202) has an activation voltage above which the trigger device (202) activates the clamp transistor. Botula makes it clear that the trigger activation voltage is below the Johnson Limit breakdown voltage with its discussion of the Johnson Limit (column 2, lines 56-67, column 3, lines 12-36, and claim 8). The fabrication processes used to form the devices of Botula in figures 3-6 inherently meet the method described in claim 11.
9. With regard to claim 2, the trigger device (202) is coupled to the base of the clamp transistor (206).

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10. In reference to claims 3, 4, 9, 10, 12, 15, and 16, Botula makes it clear that the npn bipolar transistor trigger device (202) and the clamp transistor (206) can be constructed of a silicon germanium material. The fabrication processes used to form the devices of Botula in figures 3-6 inherently meet the methods described in claims 12, 15, and 16.

11. With regard to claims 5-7, 13, and 14, Botula discusses the usage of ESD devices and its implementation between an input pad, a power rail, a ground rail, a first power source, and a second power source (column 1, lines 30-58 and claims 1-6 and 8) in RF devices. Botula makes it clear that the disclosed invention of its specification is to be implemented in such a manner (column 1, lines 66-67, column 2, lines 1-8, and claims 1-6 and 8). The fabrication processes used to form the devices of Botula in figures 3-6 inherently meet the methods described in claims 13 and 14.

12. In reference to claim 17, Botula (USPN 6,429,489 B1) discloses a similar device. Figures 3-6 of Botula each disclose a semiconductor device having electrostatic discharge circuitry with a forward biased npn bipolar transistor trigger device (202, for sake of clarity the labels of figure 3 are only used since the corresponding labels for the other figures are similar) fabricated in a given technology. There is a clamp transistor (206) that is coupled to the trigger device (202) so that activation of the trigger device (202) activates the clamp transistor (206). The electrostatic discharge circuitry is coupled between a first rail (210) for providing a first voltage source and a second rail (212) for providing a second voltage source. Botula states that the functional circuitry (for performing an

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electrical function) is also coupled between these two rails (claim 8). The electrostatic discharge circuitry diverts electrostatic discharges from the functional circuitry onto either the first and second rail (claim 8). Botula makes it clear that the clamp transistor (206) has a cutoff frequency which determines its Johnson Limit breakdown voltage with its discussion of the Johnson Limit (column 2, lines 56-67 and column 3, lines 12-36). The trigger device (202) has an activation voltage above which the trigger device (202) activates the clamp transistor. Botula makes it clear that the trigger activation voltage is below the Johnson Limit breakdown voltage with its discussion of the Johnson Limit (column 2, lines 56-67, column 3, lines 12-36, and claim 8).

13. In reference to claims 19 and 20 and so far as understood in claim 18, Botula makes it clear that the npn bipolar transistor trigger device (202) and the clamp transistor (206) can be constructed of a silicon germanium material.

14. In reference to claim 21, Botula (USPN 6,429,489 B1) discloses a similar device. Figures 3-6 of Botula each disclose an integrated circuit having electrostatic discharge circuitry with a forward biased npn bipolar transistor trigger device (202, for sake of clarity the labels of figure 3 are only used since the corresponding labels for the other figures are similar) fabricated in a given technology. There is a clamp transistor (206) that is coupled to the trigger device (202) so that activation of the trigger device (202) activates the clamp transistor (206). The electrostatic discharge circuitry is coupled between a first rail (210) for providing a first voltage source and a second rail (212) for providing a second voltage source. Botula states that the functional circuitry (for performing an

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electrical function) is also coupled between these two rails (claim 8). The electrostatic discharge circuitry diverts electrostatic discharges from the functional circuitry onto either the first and second rail (claim 8). Botula makes it clear that the clamp transistor (206) has a cutoff frequency which determines its Johnson Limit breakdown voltage with its discussion of the Johnson Limit (column 2, lines 56-67 and column 3, lines 12-36). The trigger device (202) has an activation voltage above which the trigger device (202) activates the clamp transistor. Botula makes it clear that the trigger activation voltage is below the Johnson Limit breakdown voltage with its discussion of the Johnson Limit (column 2, lines 56-67, column 3, lines 12-36, and claim 8).

15. In reference to claims 22 and 23, Botula makes it clear that the npn bipolar transistor trigger device (202) and the clamp transistor (206) can be constructed of a silicon germanium material.

### ***Claim Rejections - 35 USC § 103***

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Botula (USPN 6,429,489 B1) in view of Weiss (USPN 6,600,356 B1).

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18. In reference to claim 8, Botula does not disclose the use of a trigger device constructed with a plurality of trigger elements in a series configuration. However the use of a plurality of trigger elements in a series configuration in an ESD protection circuit is well known in the art. Weiss (USPN 6,600,356 B1) discloses the use of a plurality of trigger elements in a series configuration for an ESD protection circuit in figure 5. Botula discloses that this configuration has the benefits of a trigger voltage which can be more easily programmed as well as an immunity to false discharge due to leakage currents (column 4, lines 22-35). In view of Botula, it would therefore be obvious to implement the trigger device as a plurality of trigger elements in a series configuration.

### ***Double Patenting***

19. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

20. Claims 1-7 and 9-23 are rejected under the judicially created doctrine of double patenting over claims 1-10 of U. S. Patent No. 6,429,489 B1 since the



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claims, if allowed, would improperly extend the "right to exclude" already granted in the patent.

The subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter, as follows:

*An electrostatic discharge device comprising: a forward biased trigger device fabricated in a given technology, a clamp transistor coupled to the trigger device so that activation of the trigger device activates the clamp transistor, the clamp transistor having a cutoff frequency which determines its Johnson Limit breakdown voltage, the trigger device being fabricated in the given technology and having a trigger activation voltage above which the trigger device activates the clamp transistor, with the trigger activation voltage being below the Johnson Limit breakdown voltage of the highest frequency device fabricated in the given technology.*

*A semiconductor device comprising: a first rail for providing a first voltage source, a second rail for providing a second voltage source, functional circuitry, coupled between the first and second rails, for performing an electrical function, electrostatic discharge circuitry, coupled between the first and second rails, for diverting electrostatic discharges from the functional circuitry onto either the first or second rail, the electrostatic discharge circuitry including: a forward biased trigger device fabricated in a given technology, a clamp transistor coupled to the trigger device so that activation of the trigger device activates the clamp transistor, the clamp transistor having a cutoff frequency which determines its*

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*Johnson Limit breakdown voltage, the trigger device having a trigger activation voltage above which the trigger device activates the clamp transistor, with the trigger activation voltage being below the Johnson Limit breakdown voltage of the highest frequency device fabricated in the given technology.*

Furthermore, there is no apparent reason why applicant was prevented from presenting claims corresponding to those of the instant application during prosecution of the application which matured into a patent. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

21. Claim 8 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,429,489 B1 in view of Weiss (USPN 6,600,356 B1).

22. In reference to claim 8, Botula does not disclose the use of a trigger device constructed with a plurality of trigger elements in a series configuration. However the use of a plurality of trigger elements in a series configuration in an ESD protection circuit is well known in the art. Weiss (USPN 6,600,356 B1) discloses the use of a plurality of trigger elements in a series configuration for an ESD protection circuit in figure 5. Botula discloses that this configuration has the benefits of a trigger voltage which can be more easily programmed as well as an immunity to false discharge due to leakage currents (column 4, lines 22-35). In view of Botula, it would therefore be obvious to implement the trigger device as a plurality of trigger elements in a series configuration.

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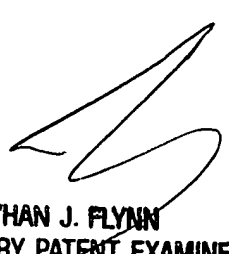
***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Quinto whose telephone number is (571) 272-1920. The examiner can normally be reached on M-F 8AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on (571) 272-1915. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KVQ



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